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WOODARD, EMHARDT, MORIARTY, MCNETT & HENRY LLP  
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INDIANAPOLIS, IN 46204-5137

EXAMINER

BACHMAN, LINDSEY MICHELE

ART UNIT	PAPER NUMBER
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3734

DATE MAILED: 04/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/540,786

Applicant(s)

MELZER ET AL.

Examiner

Lindsey Bachman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 40-73 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 40-73 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/1/2005.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

The spacing of the lines of the specification is such as to make reading difficult. New application papers with lines 1½ or double spaced on good quality paper are required.

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a) because they fail to show conductor loop 21c (page 9, paragraph 4) and alternative cutting patten 300c (page 10, paragraph 5) as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP §.608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the

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examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: All reference characters in Figures 6A, 6B, 6C. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

Claim 61 objected to because of the following informalities: the word "least" is spelled "lest". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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Claim 46 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not discuss any use of a liquid, nor does it describe the relevance of layer thickness.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 45-47, 48, 54, 56, 57, 60, 65, 66, 68, 69, 70, 71, and 73 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131

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USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

In the present instance, claim 45 recites the broad recitation requiring a nonconductor, and the claim also recites “especially plastic and/or ceramic,” which is the narrower statement of the range/limitation.

Regarding claim 47, it recites the broad recitation requiring a resonance frequency, and the claim also recites “especially in the high-frequency range,” which is the narrower statement of the range/limitation. A second broad recitation requiring the frequency of an external magnetic field, and the claim also recites “especially a MR tomography,” which is the narrower statement of the range/limitation.

Regarding claim 48, it recites the broad recitation requiring a conductor material, and the claim also recites “especially gold, platinum, tantalum and/or conducting alloys,” which is the narrower statement of the range/limitation.

Regarding claim 57, it recites the broad recitation requiring that adjacent regions of the conductor loop winding are connected without intermediate space to each other in extension, and the claim also recites “especially are produced from one piece, welded, soldered or pressed,” which is the narrower statement of the range/limitation.

Regarding claim 65, it recites the broad recitation requiring a semiconductor element, and the claim also recites “especially a diode and/or a transistor and/or an integrated circuit,” which is the narrower statement of the range/limitation.

Regarding claim 66, it recites the broad recitation requiring a single material piece, and the claim also recites "especially a tube, wire or electrically conducting plastic," which is the narrower statement of the range/limitation.

Regarding claim 69, it recites the broad recitation requiring joining by welding, gluing, clamping, sealing and/or shop-mating, and the claim also recites "especially by thermally initiated shrinkage of a cylinder of a shape memory material," which is the narrower statement of the range/limitation.

Regarding claim 70, the phrase "for example" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Regarding Claim 54, the phrase "leg-like" renders the claim(s) indefinite because it is not clear from the specification what the term "leg-like" encompasses. Regarding Claim 68, the phrase "meander-like" renders the claim indefinite because it is not clear from the specification what the term "meander-like" is describing.

Regarding Claim 56, the term "limited spacing" is a relative term which renders the claim indefinite. The term "limited spacing" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The spacing between the conductor loop windings is unclear due to the use of "limited spacing".

Regarding Claim 46 recites the limitation "the enclosure". There is insufficient antecedent basis for this limitation in the claim.

Regarding Claim 73 recites the limitation "the connection device". There is insufficient antecedent basis for this limitation in the claim.

Regarding Claim 60, it is not clear what the brace is fastening to the vessel filter.

Regarding claim 71, the rights of 35 U.S.C. 112, sixth paragraph, regarding means-plus-function statements have not been invoked. Furthermore, the means for braking described in paragraph 43 of the specification are ambiguous. It is unclear what means for braking are being claimed.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 41, 43-48, 49-53, 66, and 68 are rejected under 35 U.S.C. 102(b) as being anticipated by Wallace, et al. (US Patent Number 6,156,061).**

Regarding Claims 41, 43, 45, 46, 66, and 68 Wallace'061 discloses a vena cava filter implant (column 7, lines 13-21) containing a conductor loop (202) made of one piece (Figure 8) of a conductive material (column 6, lines 14-18) coated with an insulating material (column 3, lines 46-47). Since the filter is made of a conductive material, it is capable of forming an inductance. Regarding Claim 43 and 44, individual sections are separated by a spacing, which can be seen in Figure 8, element 202. Since claim 44 further limits only in the case of an insulator, Claim 45 can be disregarded



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when spacers are used. Regarding Claim 46, the capacitance is inherently adjustable by presence in a liquid. Regarding Claim 47, it is commonly known in the art that any circuit has a frequency associated with it, including the circuit disclosed by Wallace'061. Regarding Claim 48, a conductor material is in contact with a non-conducting material, as with any wire covered in insulation. Regarding Claim 68, the filter is led into the vessel by push wire (206).

Regarding Claims 49 and 50, Wallace'061 discloses a filter implant that is deployable via electrolysis. The entire filter is covered with a non-conducting material, except for the electrolytically severable joint (204) which is released by applying a current (column 3, lines 52-55) while the material is in an ionic liquid, such as blood (column 5, lines 52-55) which means it is deployable while in the body.

Regarding Claims 51 to 53, Wallace'061 discloses a filter implant with a plurality of conductor loop windings (in Figure 8, there are multiple instances of conductor loop winding 202). It can be seen in Figure 8 that the conductor loop windings are have a maximum space between them along the axis collinear with base 206. Furthermore, there is a reduce spacing between the conductor loop windings (202) along the circumference of the filter in comparison to the spacing between the conductor loop windings (202) across the diameter of the filter.

**Claims 54-61, 63, 67, and 71-73 are rejected under 35 U.S.C. 102(a) as being anticipated by Walak, et al. (US Patent Number 6,540,767).**

Walak'767 teaches a thrombosis filtering device comprising a conductor loop made of spokes and ring (520). The ring is made of a shape memory alloy, such as a

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nickel-titanium alloy, which will change shape when it is heated (column 2, lines 23-30). One method of heating the ring (520) is applying an electric current (column 2, lines 30-40) to it.

Regarding Claim 54 and 59, Walak'767 discloses a filter with a plurality of conductor loop windings (506, specifically Figures 6 and 7) that merge at 502 and extend to the other side of the filter (510).

Regarding Claim 55 and 63, Walak'767 discloses a filter with extension (512) that is used to connect the filter to the vessel wall (column 8, lines 7-11) and a brace (502) that is used to fasten the legs (506) together at one end.

Regarding Claim 56, Walak'767 discloses in Figure 7, a limited spacing between the conductor loop windings (506) while in extension.

Regarding Claim 57, Waluk'767 discloses a ring (520) connects the conductor loop windings (506). The conductor loop windings (506) may be connected to the ring by many different methods including welding (column 7, lines 55-63).

Regarding Claim 58, Waluk'767 discloses a double filter with a filter cage on each end (150, 840 in Figure 17).

Regarding Claims 60 and 61, Waluk'767 discloses that the braces (512) are connected to the filter via a method such as welding (column 7, lines 55-63). If this is the case, current will flow to the braces and also into the body of the patient (column 10, lines 50-55). Furthermore, the brace is used for connecting the filter to the vessel wall (column 8, lines 5-11).

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Regarding Claim 67, Waluk'767 discloses a conductor loop that could be made by cutting a tube repeatably lengthwise and then expanding it (Figures 15 and 16). (See column 11, lines 23-39.)

Regarding Claim 71-73, Waluk'767 discloses coupling device (64) on the end of the filter for use with a retrieval member (116) (See column 5, lines 33-34.)

**Claims 60 and 62 are rejected under 35 U.S.C. 102(a) as being anticipated by DeVries (US Patent Application Number 2001/0039431).**

DeVries'431 discloses a thrombus filter (20) comprising a conductor loop.

Regarding Claim 60 and 62, DeVries'431 discloses that the filter contains conductor loop windings (24) movably connected to braces (34) for fastening the filter to vessel walls (See page 3, paragraph 34.) The connection is created by a sleeve (36) that is fixed to the free end of the winding (24) by a weld; the base of the brace (32) is releasably connected to the sleeve. (See page 3, paragraphs 33 and 34.)

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

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2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wallace'061 in view of Patterson, et al. (US Patent Number 5,941,869).**

Wallace'061 teaches discloses a vena cava filter implant (column 7, lines 13-21) containing a conductor loop (202) made of one piece (Figure 8) of a conductive material (column 6, lines 14-18).

Wallace does not teach the use of an integrated circuit adjust another circuit.

Patterson'869 teaches the use of a metallic stent acting as a filter when the stent captures a thrombosis. As two electrodes form a circuit between each other and approach the filter, the filter will either proceed to maintain or remove the thrombosis (column 5, line 47 to column 6, line 24).

Therefore, it would have been obvious to one skilled in the art at the time of the invention, to use two circuits when removing a thrombosis from a vessel.

**Claims 69 and 70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Waluk'767 in view of Metais, et al. (US Patent Number 5,234,458) and in further view of Kleshinski (US Patent Number 5,540,712).**

Waluk'767 teaches a thrombosis filtering device that is electrically-conductible containing a plurality of conductor loop windings (506, specifically Figures 6 and 7) that merge at 502. Waluk'767 does not teach a method of joining the conductor loop windings. Waluk'767 also teaches that using electromagnetic energy to actuate the

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conductor loop windings, which are made of a shape memory alloy (column 2, lines 30-40). Waluk'767 also teaches the use of a hook (512) to attach the filter to a vessel wall.

Metais'458 teaches a filter device to prevent embolisms that contains legs (10) which are connected at connecting pieces (4, 5) by an electrical spot weld. Metais'458 does not teach the use of electricity or a motivation to weld the pieces together.

Kleshinski'712 teaches a stent made of a metallic frame. He does not teach the use of electricity. He teaches the use of welding to create a strong bond (column 8, lines 63-67).

Therefore, it would have been obvious to one skilled in the art at the time of the invention to use welding to create a strong bond between the legs of a filter that are to be introduced to a vessel inside the body.

**Claim 64 is rejected under 35 U.S.C. 103(a) as being unpatentable over DeVries'431 in view of Thomas (US Patent Publication 2003/0208227).**

DeVries'431 discloses a thrombus filter (20) comprising a conductor loop.

Regarding Claim 64, DeVries'431 discloses that the filter contains conductor loop windings (24) movably connected to braces (34) for fastening the filter to vessel walls (See page 3, paragraph 34.)

DeVries'431 does not teach the use of bioresorbable materials.

Thomas'227 teaches the use of bioresorbable materials in a brace (22) to ensure that a thrombus filter (10a, 10b) is attached to the wall of a vessel. Thomas'227 teaches the use of bioresorbable materials so that removal of the filter is easier because the entire filter is absorbed by the body (paragraph 6).

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Therefore, it would have been obvious to one skilled in the art at the time of the invention to use bioresorbable materials for use in the braces to facilitate removal of the filter from the vessel.

**Claim 65 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wallace'061 in view of Barbut, et al. (US Patent Number 7,011,672).**

Wallace'061 teaches the use of a metallic filter that can be used with a conductor loop.

Wallace'061 does not teach the use of a semiconductor portion in the filter.

Barbut teaches the use of metallic filter with a silicon sleeve (976) with holes in it to allow lateral blood flow (column 28, lines 48-53). Silicon is a well-known semiconductor.

Therefore, it would have been obvious to one skilled in the art at the time of the invention to use silicon in a filter.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lindsey Bachman whose telephone number is 571-272-6208. The examiner can normally be reached on Monday to Thursday 7:30 am to 5 pm, and alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jackson can be reached on 571-272-4697. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

lmb

GARY JACKSON  
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*Gary Jackson*  
4-14-2006